

February 15, 2011



U.S. Department  
of Transportation

East Building, PHH-30  
1200 New Jersey Avenue S.E.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 14744  
(THIRD REVISION)

**EXPIRATION DATE: December 31, 2014**

(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Sandia National Laboratories  
Albuquerque, NM
2. PURPOSE AND LIMITATION:
  - a. This special permit authorizes the transportation in commerce of manifolded DOT and ICC Specification 3A, 3AA and 3AL cylinders containing nitrogen, compressed without pressure relief devices and a non-DOT specification refrigeration system described as pulse tube coolers containing helium, installed on the Advanced Flight Telescope (AFT) Payload. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein. The most recent revision supersedes all previous revisions.
  - b. The safety analyses performed in the development of this special permit only considered the hazards and risks associated with the transportation in commerce.
  - c. No party status will be granted to this special permit.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR § 173.24(b)(1) in that the DOT Specification cylinders are allowed to release nitrogen into the satellite telescope during transportation; § 173.301(f) in that a cylinder not equipped with a pressure

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relief device is authorized; § 173.301(g) in that each manifolded cylinder is not closed during transportation; § 173.302a in that the refrigeration system is not an authorized packaging, except as provided herein; and § 172.301(b) in that the cylinder markings are obscured by attachments.

5. BASIS: This special permit is based on the application of Sandia National Laboratories dated July 27, 2010, submitted in accordance with § 107.109
6. HAZARDOUS MATERIALS (49 CFR § 172.101):

<b>Hazardous Materials Description</b>			
<b>Proper Shipping Name</b>	<b>Hazard Class/ Division</b>	<b>Identification Number</b>	<b>Packing Group</b>
Helium, compressed	2.2	UN1046	N/A
Nitrogen, compressed	2.2	UN1066	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is the Advanced Flight Telescope (AFT) Payload equipped with DOT and ICC Specification 3A, 3AA and 3AL cylinders and a non-DOT specification, non-refillable, hermetically sealed, refrigeration system described as a Pulse Tube Cryocooler (PTC). Each cylinder has a minimum service pressure of 2,015 psig is in conformance with all requirements of the HMR except for the pressure relief device requirements of § 173.301(f) and (g). The cylinders are manifolded in groups of two or six cylinders and are shipped in either vertical or horizontal configurations. The cylinders must be securely braced and strapped to a pallet as shown on the drawings on file with the Office of Hazardous Materials Special Permits and Approvals (OHMSPA). The PTC must be in conformance with the requirements of DOT-SP 12643 except for the original vendor packaging.

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b. OPERATIONAL CONTROLS -

(1) The AFT Payload must be shipped in a strong outside aluminum shipping container constructed in accordance with drawings on file with OHMSPA.

(2) Individual cylinder valves are open and the pressure is controlled by a regulator. The regulator must limit the maximum flow of nitrogen to 50 liters per minute when transported by motor vehicle.

(3) The AFT must be securely braced and strapped to a pallet during transportation. The cylinder valves and manifold must be equipped with an adequate protection during transportation.

(4) Emergency response information provided with the shipment and available via an emergency response telephone number must indicate that the cylinders are not fitted with pressure relief devices and must provide appropriate guidance in the event of a fire.

(5) The AFT Payload must be transported in an exclusive use vehicle in which the temperature of the trailer interior maintained between 68 and 70 °F.

(6) An escort vehicle must accompany the exclusive use vehicle with a physical inspection of the nitrogen purge system being conducted every 5 hours.

(7) The AFT must not have power applied to the system during transportation.

(8) The PTC must be non-functional during transportation.

(9) For cylinder with the required markings covered by restraint collars, the required cylinder markings must be plainly and durably stenciled, in letters and numbers at least one-half inch height, onto an area below the cylinder restraint collars. The cylinder markings must be displayed in a color that contrasts sharply with the color of the cylinders.

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8. SPECIAL PROVISIONS:

a. A person who is not a holder of this special permit who receives a package covered by this special permit may reoffer it for transportation provided no modification or change is made to the package and it is reoffered for transportation in conformance with this special permit and the HMR.

b. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

c. Each cylinder must be plainly and durably marked "DOT-SP 14744" as specified in § 172.301(c). In addition, the outer shipping container must be plainly and durably marked on two opposite sides "DOT-SP 14744."

d. This special permit only authorized transportation in commerce in support of the Advanced Flight Telescope (AFT) program.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle.

10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each motor vehicle used to transport packages covered by this special permit.

11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:

- o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
- o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.
- o Registration required by § 107.601 et seq., when applicable.

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Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 Immediate notice of certain hazardous materials incidents, and 171.16 Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Dr. Magdy El-Sibaie  
Associate Administrator for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Material Safety Administration, U.S. Department of Transportation, East Building PHH-30, 1200 New Jersey Avenue, Southeast, Washington, D.C. 20590.

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Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm). Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: BrMoore/tg